

PROJECT DESCRIPTION

I. GENERAL

This portion of project involves the modification of the existing intersection control beacon at the intersection of MD 140 and MD 31 in Carroll County, Maryland. MD 140 is considered to run in an east/west direction.

II. INTERSECTION OPERATION

The intersection presently operates in a flashing operation.

The intersection is to be modified to operate in a NEMA two (2) phase, full-traffic-actuated mode. There will be an exclusive/permissive left turn phase for the westbound movement of MD 140. MD 140 westbound movement does not stop at any time.

An eight phase, full-traffic-actuated, solid state digital controller with intersection monitor and harness, battery back-up, and one 4-channel rack mounted time delay output loop detector amplifier housed in a pole mounted cabinet are to be installed at this location.

A phone drop will be required for this intersection.

EQUIPMENT LIST

A. Approved S.H.A. equipment to be purchased by the Developer and installed by the Contractor. All equipment in this list shall have catalog cuts submitted for approval prior to installation.

Quantity	Units	Specification Section	Description
1	EA	818	27 ft. steel mast arm pole with a 60 ft. mast arm [Note: four 2 in. x 90 in. anchor bolts].
1	EA	816	Standard S.H.A. traffic signal controller, pole mounted cabinet, and one 4-channel rack mounted loop detector amplifiers [Note: Controller and cabinet shall be supplied by Econolite and delivered to the S.H.A. signal shop for wiring and testing. Contact Mr. Ed Rodenhizer (410) 787-7650].
2	EA	814	12 in., one-way, three section (R,Y,G) adjustable traffic signal head with mast arm mounting hardware and tunnel visors.
2	EA	814	12 in., one-way, three section (RA,YA,GA) adjustable traffic signal head with mast arm mounting hardware and tunnel visors.
1	EA	813	36 in. x 60 in. R 10-6(1) sign with mast arm mounting hardware.
1	EA	813	30 in. x 36 in. R 3-5(L) sign with mast arm mounting hardware.
2	EA	813	48 in x 48 in. W 3-3 "NEW" sign for ground mounting.
1	EA	806	10 ft. luminaire arm.
1	EA	806	250 W H.P.S. lamp and luminarie.

B. Equipment to be furnished and installed by the Contractor. All equipment in this list shall have catalog cuts submitted for approval prior to installation.

Quantity	Units	Specification Section	Description
Lump Sum	LS	108	Mobilization.
Lump Sum	LS	104	Maintenance of traffic.
1	CY	205	Test pit excavation.
7	EA	811	Handhole.
295	LF	815	Sawcut for signal loop detector.
1015	LF	810	Loop detector wire (No. 14 A.W.G.) encased in flexible tubing.
1240	LF	810	2-conductor (aluminum shielded) electrical cable (No. 14 A.W.G.).
30	LF	810	2-conductor electrical tray cable (No. 12 A.W.G.).
60	LF	810	5-conductor electrical cable (No. 14 A.W.G.).
110	LF	810	7-conductor electrical cable (No. 14 A.W.G.).
25	LF	810	3-wire (No. 4 A.W.G.) electrical cable.
25	LF	810	3-wire (No. 8 A.W.G.) electrical cable.
15	LF	804	Bare copper stranded ground wire (No. 6 A.W.G.).
20	LF	805	1 in. liquid tight flexible non-metalic conduit for loop detector sleeve.
360	LF	805	2 in. polyvinyl chloride [Schedule 80] electrical conduit - trenched.
80	LF	805	2 in. polyvinyl chloride [Schedule 80] electrical conduit - pushed.
5	LF	805	3 in. polyvinyl chloride [Schedule 80] electrical conduit - trenched.
4.65	CY	801	Concrete foundation for traffic signal equipment.
1	EA	804	Ground rod 3/4 in. diameter x 10 ft. length.
1	EA	807	Control and distribution equipment (120/240 V, one phase, three wire system) for a type P-8 overhead electrical service.
36	LF	550	24 in. wide HAPPTM - white for stop line.
82	LF	812	4 in. x 6 in. wood sign support.
Lump Sum	LS	---	Remove existing traffic signal equipment.
Lump Sum	LS	---	As-built for S.H.A. (on CADD).

CONTACT LIST

The contact persons for District #7 are as follows:

Robert Fisher
District Engineer
301-624-8101

Mr. John Concannon
Assistant District Engineer - Traffic
301-624-8101

Mr. John Wright
Assistant District Engineer - Utility
301-624-8101

Mr. Leon Kerns
Assistant District Engineer - Maintenance
301-624-8101

Mr. Richard L. Daff
Chief, Traffic Operations Division
410-787-7630

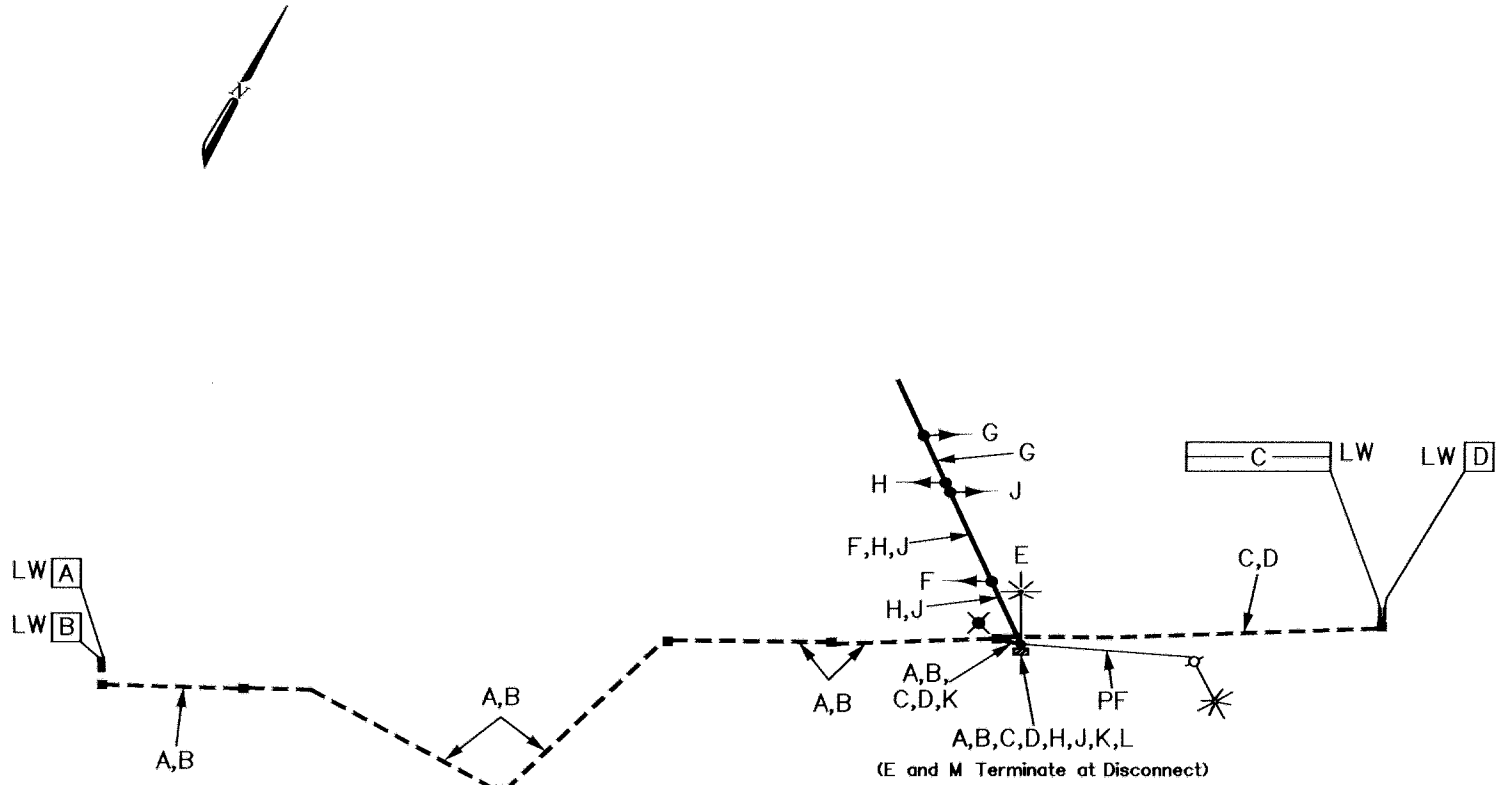
The Power Company Representative is:
Baltimore Gas and Electric Company
Mr. Joseph Bunch
7317 Parkway Drive South
Hanover, Maryland 21076
410-859-9030

Phase Chart

1	2	3	4
(R) (Y) (G)	(R) (Y) (G)	(RB) (YB) (GB)	(RB) (YB) (GB)

Phase 1	R	R	←G—	→G—	↺
1 Change	R	R	→Y—	→Y—	
Phase 2	G	G	←FL/ R	←FL/ R	↻
2 Change	Y	Y	←FL/ R	←FL/ R	→
Flashing Operation	FL/Y	FL/Y	←FL/ R	←FL/ R	↻

Wiring Diagram



- A } 2-Conductor Cable (Aluminum Shielded)
- B }
- C }
- D }
- E — 2-Conductor Tray Cable (No. 12 A.W.G.)
- F } 5-Conductor Electrical Cable (No. 14 A.W.G.)
- G }
- H } 7-Conductor Electrical Cable (No. 14 A.W.G.)
- J }
- K — Bare Copper Ground Wire (No. 6 A.W.G.)
- L — 3-Wire (No. 4 A.W.G.) for Traffic Signal Electrical Service
- M — 3-Wire (No. 8 A.W.G.) for Street Lighting Electrical Service
- LW — Loop Detector Wire (No. 14 A.W.G.) in Flexible Tubing
- ✕ — Proposed Grounding Rod
- PF — Proposed Overhead Electrical Service By BGE

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SIGPLAN.DGN

MDOT – STATE HIGHWAY ADMINISTRATION
Office of Traffic & Safety
TRAFFIC ENGINEERING DESIGN DIVISION
(General Information)
MD 140 at MD 31

DATE: February 24, 1999	LOG MILE • 06014010.72
DRAWN BY: J. Storck	PLAN SHEET NO.: 3215B-GI
CHK. BY:	SHEET NO. 4 of 4
SCALE: N/A	COUNTY: CARROLL